



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



286409

APR 25 2008

REPLY TO THE ATTENTION OF

SE-5J

MEMORANDUM

DATE:

SUBJECT: ENFORCEMENT ACTION MEMORANDUM – Determination of Threat to Public Health or the Environment at the Lindsay Light II Site/319 East Illinois, Chicago, Cook County, Illinois (Site Spill ID #05YT, OU 7)

FROM: Verneta Simon, On-Scene Coordinator *VS*
Emergency and Enforcement Response Branch I, Response Section III

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the existence of thorium-impacted soils at Lindsay Light II (“Lindsay Light”) Operable Unit (“OU”) 7. This property was formerly known as 319 East Illinois (HBE Adams Mark) and now is designated as OU 7 319 East Illinois (465 North Park Drive) Site (“Site”) in the Streeterville neighborhood of Chicago, Illinois .

On October 11-12, 2000, U.S. EPA conducted a radiological walkover of the property, which then was and currently is a parking lot to determine whether there were any elevated readings at the surface that might indicate the presence of subsurface radioactive materials. There were no highly elevated surface radiation readings. Several areas, generally on the far south side of the parking lot, however, appeared distinct from background. In November 2002, samples were collected from test pits. The highest sample result indicated 90 picoCuries per gram (pCi/g) total radium which exceeded the 7.1 pCi/g cleanup criterion for the Streeterville neighborhood.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# ILD 0000002212

Please refer to the previous Lindsay Light Action Memoranda dated July 11, 1994, October 5, 1995, April 22, 1996, September 22, 1999, March 28, 2000, March 1, 2001, July 17, 2002, July 18, 2005, January 17, 2006, and November 7, 2006 for a description of site conditions and background. These Lindsay Light action memoranda and administrative records are fully incorporated by reference into this document.

This Site is located in the Streeterville neighborhood of Chicago, Illinois and is bounded on the north by Illinois Street, on the south by New Street, on the east by East North Water, and Park Street on the west. Historically, the Michigan Canal, now known as Ogden Slip (the "Slip"), extended east to west, through the middle of the Site. An "arm" of the slip also extended from the northern edge of the Slip approximately halfway to Illinois Street. The arm of the Slip was filled in between 1950 and 1975. The main channel of the slip was filled in by 1986. The Site is currently an asphalt parking lot with several small landscaped islands.

On or about July 3, 2007, The Hanover Company (also known as 465 N. Park Drive, LLC/ Hanover) purchased the northern third of this property adjoining Illinois Street (OU 7) which has the approximate dimensions of 160 feet by 215 feet or approximately 0.8 acres. The Fordham Development Company (Fordham) is the owner of the remaining southern portion property which U.S. EPA designated as OU 13.

An environmental justice (EJ) analysis was performed for this site and is contained in Attachment I. In Illinois, the low-income percentage is 27% and the minority % is 32. To meet EJ concern criteria, the area within 1 mile of this property must have a population that's twice the state low income percentage or/and twice that state minority percentage. That is, the area must be a least 54% low-income and/or 64% minority. At this Site, the low-income percentage is 14% and minority percentage is 25%, as determined by Arcview. Therefore, this Site does not meet the region's EJ criteria based on the demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998".

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II Site/319 East Illinois may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) 300.415 (b)(2). These factors include:

a) Actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This Site is located immediately south of the Lindsay Light II Site (also known as River East, 316 E. Illinois). In the 1990s, approximately 30,000 cubic yards of thorium-contaminated soil was excavated from the Lindsay Light II Site. The highest soil sample from a test pit at OU 7 indicated 90 pCi/g total radium, which is almost 13 times our clean-up criterion. U.S. EPA's clean-up criterion is 7.1 pCi/g total radium for the Streeterville area. In the next week, the owner plans to excavate large portions of the property and during the construction activities thorium contaminated soils may be released.

b) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate:

The owner plans to excavate large portions of the Site and, if proper measures to identify and control radiological contamination are not implemented, thorium contaminated wastes may be released during construction work. Past Lindsay Light Action Memoranda corroborates the presence of thorium contamination in soils near the surface. To date, approximately 55,000 cubic yards have been shipped to EnergySolutions (formerly Envirocare) of Utah for off-site disposal. Since 1993, U.S. EPA has been involved in the cleanup of thorium contamination throughout Streeterville. In approximately 1936, the Lindsay Light Company moved its operations from Streeterville to the City of West Chicago, Illinois. In West Chicago, During the 1990s, U.S. EPA designated four National Priorities List Sites and ordered the cleanup of more than 670 residential area properties impacted by thorium, a public park, a sewage treatment plan and nearly eight miles of creek and river. Similarly, as a result of Lindsay Light's operations in Streeterville, widespread radiological contamination also may be present in Streeterville but may be more difficult to detect due than the surface contamination in West Chicago to the presence of sidewalks, streets, and buildings that may shield buried contamination.

c) Other situations or factors which may pose threats to public health or welfare or the environment:

The Lindsay Light Company (Lindsay) manufactured, at several locations in the Streeterville neighborhood of Chicago, gas lights and gas mantles for residential and commercial use beginning in approximately 1904. The historic record regarding Lindsay's volume of thorium production in Streeterville is uncertain. According to a U.S. Tariff Commission document on the Incandescent Gas-Mantle Industry published in 1920, in 1914 Lindsay expanded its thorium manufacturing capacity in Chicago to meet the increased domestic and foreign demand caused by the outbreak of war in Europe. The production of thorium for the gas light mantles resulted in a sandy waste known as mill tailings that was often used as fill material. The November 1935 Lindsay Board of Directors' Meeting minutes discussed plans to move Lindsay's Streeterville operations to the City of West Chicago by September 1936. The West Chicago facility became known

as the Rare Earths Facility or REF. In West Chicago, Lindsay and its successors continued to produce thorium as well as other radioactive materials for commercial and defense-related purposes. As a result of Lindsay's Rare Earths Facility thorium manufacturing and disposal activities, four West Chicago areas were listed on the National Priorities List of Superfund Sites.

In the West Chicago area, U.S. EPA, with the assistance of the Illinois Emergency Management Agency, Division of Nuclear Safety (IEMA/DNS), formerly known as the Illinois Department of Nuclear Safety, IEMA/DNS, has overseen the clean-up of over 670 properties in residential areas, a 100-acre public park, a sewage treatment plant, and beginning in the Spring of 2005, the clean-up of over six miles of creek and river in DuPage County. The widespread use and dispersal of the thorium material as fill in West Chicago likely reflects a similar widespread dispersal of the Lindsay Light thorium residuals in Chicago. Unlike the relatively open areas in the City of West Chicago where the extensive nature of the thorium contamination was relatively easy to identify, most of the Lindsay Light thorium was shielded from detection by asphalt, sidewalks, streets, and buildings. Consequently, appropriate response actions are necessary to assure construction workers and the public that the construction activities will not result in the uncontrolled exposure to or release of thorium contamination or improper disposal of the thorium contaminated soils at or from the Site.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, the nature of the contaminants – radioactive materials that cause external exposure, inhalation, ingestion, and direct contact hazards, as described in Section III, the actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this Action Memorandum, may pose an imminent and substantial endangerment to public health, or imminent and substantial endangerment to public health, or welfare, or the environment due to these radioactive materials.

V. PROPOSED ACTIONS

The owner of OU 7 has negotiated an Administrative Settlement Agreement and Order on Consent and will remove thorium contaminated soils from its property except where existing utilities and infrastructure make such removal impractical. The owner of OU 7 has agreed to record institutional controls to prevent future exposure to or release of any remaining thorium contamination to protect human health and the environment. This will involve at a minimum the following actions:

- 1) Develop a Work Plan for the radiological assessment of the site.
- 2) Develop and implement a site health and safety plan.
- 3) Develop and implement an air monitoring plan.

- 4) Develop and implement site security measures.
- 5) Conduct land surveying to the extent necessary to establish a grid system to locate all Property boundaries, special features (pipes, storage tanks, etc.), and sample locations.
- 6) Place borings in critical locations (grid corners, high exposure rate areas, special features, etc.) to measure subsurface radiation levels. Measurements shall be recorded at each 6-inch depth until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.
- 7) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content, and to determine the disposal facility.
- 8) Conduct off-site radiological surveying and sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should contamination be discovered beyond current site boundaries.
- 9) Based upon soil results, remove, transport, and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.
- 10) The soil clean-up criterion is 7.1 picocuries per gram (pCi/g) total radium (Ra-226 + Ra-228) including background, unless analyses indicate the existence of additional contaminants, hazardous substances, pollutants or waste.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, to the extent that the thorium contamination is excavated and shipped off-site for disposal, the need for post-removal site control will be limited to those areas that are not radiologically surveyed or where known contamination is left in place.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARs)

All applicable or relevant and appropriate requirements (ARARs) of Federal law will be complied with to the extent practicable. The primary federal Applicable or Relevant and Appropriate Regulation for radioactive soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and Environmental Protection Standards for

Uranium and Thorium Mill Tailings.” Ancillary ARARs include the Nuclear Regulatory Commission’s (NRC) Title 10, Part 20, of the Code of Federal Regulations, “Standards for Protection Against Radiation,” NRC Regulatory Guide 1.86, “Termination of Operating License for Nuclear Reactors,” and the Department of Transportation’s Title 49 for shipping hazardous materials. Relevant U.S. EPA guidance includes OSWER Directive No. 9200.4-25, issued February 12, 1998, regarding the “Use of Soil Cleanup Criteria in 40 CFR Part 192, as Remediation Goals for CERCLA Site.”

Many of the regulations carried out by the NRC have been delegated to the Illinois Emergency Management Agency, Division of Nuclear Safety. The State has previously identified the regulations at 32 ILL. Administrative Code 332, Licensing Requirements for Source Material Milling Facilities which contain the licensing requirements for source material milling facilities in Illinois as relevant and appropriate the cleanup of thorium in Streeterville. The cleanup standard for soils and sediment at the Site derived from the foregoing federal and state regulations is 7.1 pCi/g combined radium.

U.S. EPA will also implement the principle of ALARA (As Low As Reasonably Achievable) which refers to the cleanup of all materials above the cleanup standard. ALARA is described in DOE and NRC orders and regulations and in U.S. EPA regulations at 40 CFR §192.22. U.S. EPA made the decision to achieve ALARA in an attempt to maximize protection of human health.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of external exposure, inhalation, ingestion or direct contact to human populations accessing and working on the site. Also, since there is no threshold for radiological risk, additional exposure to radiological materials will increase the cancer risk.

VII. OUTSTANDING POLICY ISSUES

None


VIII. ENFORCEMENT

For Administrative purposes, information concerning confidential enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II Site 05YT /Operable Unit 7 located at 319 East Illinois (aka 465 North Park Drive), in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action, you may indicate your decision by signing below.

APPROVE:

 4/25/08

Director, Superfund Division

DISAPPROVE:

Director, Superfund Division

ATTACHMENTS: Enforcement Confidential Addendum

1. Environmental Justice Map
2. Index to the Administrative Record

cc: D. Chung, U.S. EPA, 5203-G

M. Chezick, U.S. Department of Interior, w/o Enf. Addendum

D. Scott, Illinois Environmental Protection Agency, w/o Enf. Addendum

S. Davis, Illinois Department of Natural Resources, w/o Enf. Addendum

B. Everetts, Illinois Environmental Protection Agency, w/o Enf. Addendum

Gary McCandless Illinois Emergency Management Agency, w/o Enf. Addendum

K. Worthington, Chicago Department of Environment, w/o Enf. Addendum

B. Haller, Chicago Department of Planning and Development, w/o Enf. Addendum

ENFORCEMENT CONFIDENTIAL ADDENDUM

**LINDSAY LIGHT II SITE
OU 07-319 EAST ILLINOIS ST. & OU 13-455 NORTH PARK DRIVE
CHICAGO, COOK COUNTY, ILLINOIS
MARCH 2008**

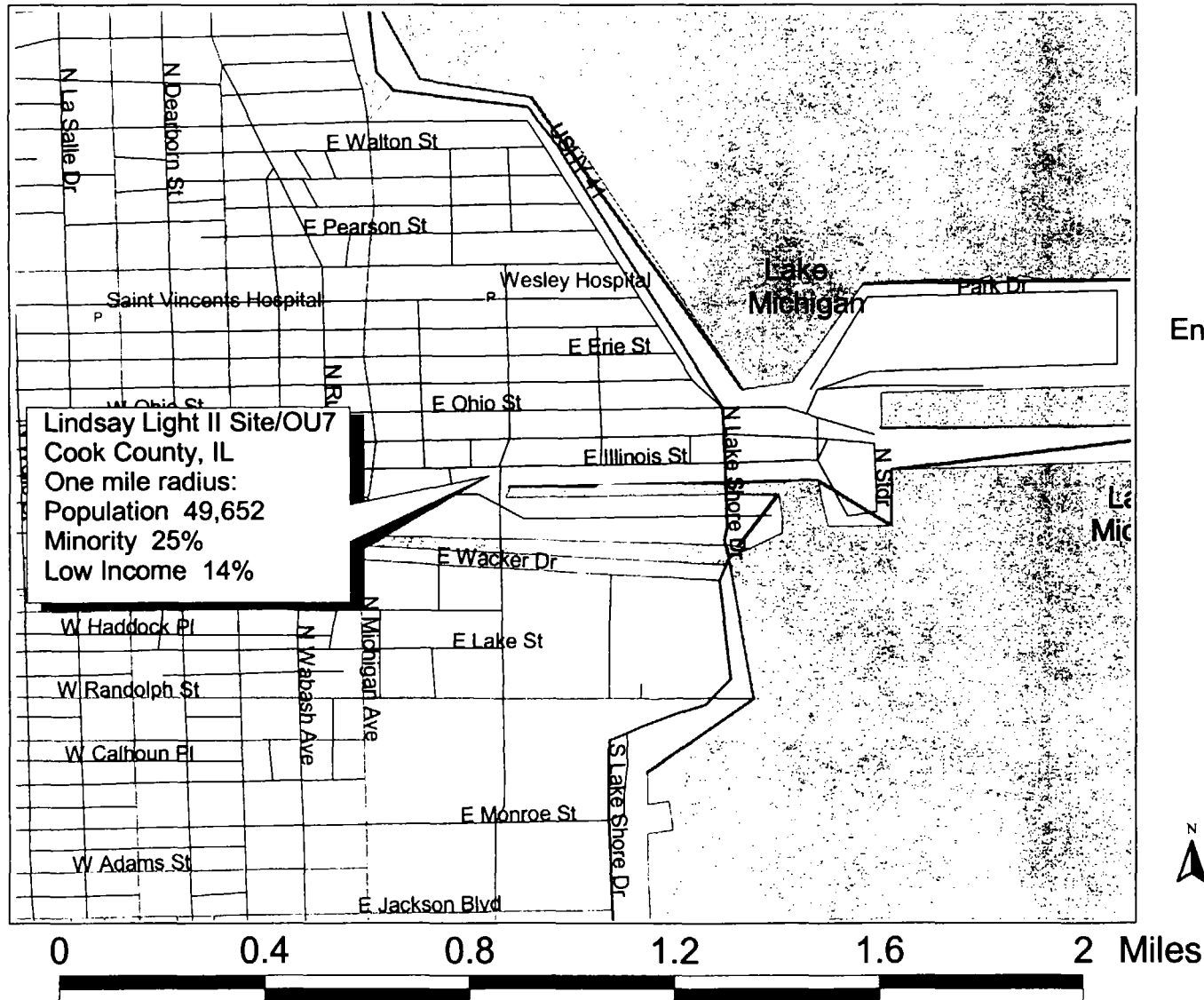
(REDACTED 2 PAGES)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**

Region 5 Superfund EJ Analysis

Lindsay Light II Site / OU7

Chicago, IL



State of Illinois averages:

Minority: 32%

Low Income: 27%

U.S. EPA Region 5
Environmental Justice Case Criteria
for State of Illinois

Minority: 64% or greater

Low Income: 54% or greater

Date of Map: 8/7/07

Source of Map: Census 2000 Database/
ArcView 3.0



ATTACHMENT 2

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR LINDSAY LIGHT II OPERABLE UNIT #7/319 E. ILLINOIS STREET CHICAGO, ILLINOIS

ORIGINAL
APRIL 24, 2008

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	03/26/87	Bucher, S. & C. Baker, STS Consultants, Ltd.	Walker, T., Chicago Dock & Canal Trust	Letter re: Summary Report of the Ogden Slip Infill Monitoring and Testing at the Cityfront Center Project (SDMS ID: 226497)	30
2	04/12/94	DiNardo, R. & R. Berggreen, STS Consultants, Ltd.	Black, D., Chicago Music and Dance Theater	Letter re: Phase I Environmental Assessment of the Proposed Chicago Music and Dance Theater Site (SDMS ID: 226482)	82
3	07/21/94	Bugg, R., E&E Enterprises	Simon, V., U.S. EPA	FAX Transmission re: Comments on STS Draft Phase I Environmental Assessment at 319 E. Illinois (SDMS ID: 226896)	3
4	06/06/96	U.S. EPA	Respondents	Unilateral Administrative Order for the Lindsay Light II Site (SDMS ID: 135108)	24
5	03/29/00	U.S. EPA	Respondents	First Amendment to the Unilateral Administrative Order for the Lindsay Light II Site (SDMS ID: 226004)	7
6	08/09/00	Simon, V., U.S. EPA	Kummer, F., HBE Corporation	Letter re: Walkover Survey of Proposed Hotel on 3XX E. Illinois St. (SDMS ID: 226496)	4
7	09/01/00	Negstad, L., HERE Local 1	Simon, V., U.S. EPA	Letter re: Miscellaneous Materials for Adams Mark (SDMS ID: 226495)	14

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8	09/07/00	Fulghum, M., U.S. EPA	Koester, R., HBE Corporation	Letter re: Walkover Survey of Proposed Building Site at 3XX E. Illinois St. w/ Attached Consent for Access to Property Form (SDMS ID: 226494)	4
9	09/12/00	Koester, R., HBE Corporation	Simon, V., U.S. EPA	Letter re: Walkover Survey at 319 E. Illinois St. w/ Attached Consent for Access to Property Form (SDMS ID: 226481)	2
10	12/01/00	Simon, V., U.S. EPA	Miller, R., HBE Corporation	Letter re: Walkover Survey of Parking Lot at 319 E. Illinois St. (SDMS ID: 226489)	2
11	04/02/01	Miller, R., HBE Corporation	Simon, V., U.S. EPA	Letter re: Property Acquisition of 319 E. Illinois St. (SDMS ID: 226480)	1
12	04/02/01	Simon, V., U.S. EPA	Miller, R., HBE Corporation	Letter re: Citizen Inquiry Living Adjacent to 319 E. Illinois St. (SDMS ID: 226488)	2
13	07/25/02	The English Company	Pullman Bank	Report: Limited Subsurface Investigation for 319 E. Illinois St. (SDMS ID: 226487)	38
14	08/22/02	Simon, V., U.S. EPA	Pauluskis, J., HBE Corporation	Letter re: Transmittal of Correspondence Sent to HBE Corporation (SDMS ID: 226486)	3
15	09/20/02	Reuscher, E. & R. Berggreen, STS Consultants, Ltd.	Larson, D., Pullman Bank	Letter re: Results of Investigation at South-west Corner of New Street and Illinois Street (SDMS ID: 226485)	10
16	11/08/02	Gang, L., HBE Corporation	Fulghum, M., U.S. EPA	Letter re: Dealings with Pullman Bank & Trust Company (SDMS ID: 226484)	2
17	11/20/02	HBE Corporation	File	Outline Specification for Thorium & Lead Investigative Work Plan at 319 E. Illinois St. (SDMS ID: 226483)	8

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18	11/20/02	HBE Corporation	File	Outline Specification for Thorium & Lead Investigative Work Plan at 319 E. Illinois St. (Appendices) (SDMS ID: 248197)	1056
19	11/20/02	U.S. EPA	File	List: Attendees at November 20, 2002 Meeting for 319 E. Illinois St. (SDMS ID: 226895)	1
20	12/20/02	Pauluskis, J., HBE Corporation	Fulghum, M., U.S. EPA	Letter re: Report of Soil Sampling & Radiological Analysis at the Adams Mark Site (SDMS ID: 226491)	8
21	03/10/03	Simon, V., U.S. EPA	Pauluskis, J., HBE Corporation	Letter re: Transmittal of Ogden Slip Report (SDMS ID: 226490)	2
22	06/17/03	Karl, R., U.S. EPA	Addressees	Letter re: General Notice of Potential Liability at the Lindsay Light II Site w/ Attached PRP List (SDMS ID: 226478)	7
23	07/03/03	Pauluskis, J., HBE Corporation	Regel, D., U.S. EPA	Letter re: Response to U.S. EPA General Notice Letter (SDMS ID: 226479)	1
24	10/01/03	Science Applications International Corporation	U.S. EPA	Title Search Report for HBE Corporation Site Volume 1 of 2 (SDMS ID: 226498)	369
25	10/01/03	Science Applications International Corporation	U.S. EPA	Title Search Report for HBE Corporation Site Volume 2 of 2 (SDMS ID: 226499)	510
26	06/20/05	Habert, S., Science Applications International Corporation	Simon, V., U.S. EPA	FAX Transmission re: Sidwell Map for the Lindsay Light II Site	2
27	04/24/08	Simon, V., U.S. EPA	Kornder, S., STS Consultants, Ltd.	Letter re: U.S. EPA Approval of Work Plan for Investigation and Removal of Radiologically-Impacted Soil on Lot-1 319 E. Illinois Street	1

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
28	00/00/00	Simon, V., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site/ 319 East Illinois (PENDING)	